# FW: Messenger Article

Thursday, June 18, 2015 2:40 PM

Subject	FW: Messenger Article
From	Perkins, Eric
То	Perkins, Stephen
Сс	Voorhees, Jeanne
Sent	Monday, November 17, 2014 10:49 AM
Attachments	Messenger Article

# Hi Stephen,

This article on tile drainage ran in Saturday's St. Albans Messenger. Eric

From: Potter, Kip - NRCS, Colchester, VT [mailto:Kip.Potter@vt.usda.gov]

Sent: Monday, November 17, 2014 10:32 AM

To: Voorhees, Jeanne; Perkins, Eric

Subject: Messenger Article

See attached. - Kip

Fletcher (Kip) Potter Water Quality Specialist USDA-NRCS 356 Mountain View Drive, Suite 105 Colchester, VT 05446 (802)-951-6796 x238

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Recent findings give researchers cause for concern

By MICHELLE MONROE Messenger Staff Writer ST. ALBANS — Just two short years ago, water quality groups and agronomists were advising farmers to install tile drainage in the belief it would help reduce run off from fields into lakes and water-

ways and increase corn yields, a "win-win" in the words of water quality expert Julie Moore.

However, new research is casting doubt on the water quality benefits of a field drainage system that has been prevalent here for nearly half-a-century. Studies published last month found that half of the phosphorous runoff from fields in the Lake Erie watershed was coming from tile drainage. Another study, published last year, found that tile drainage contributes to erosion within streams themselves.

► See DRAINAGE on page 2A

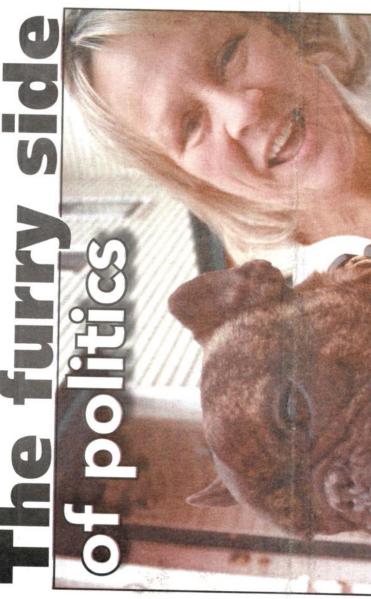


Love (

By ELODIE REED
Messenger Staff Writer

HRANKLIN COUNTY
Felection is over an results are in. Ever sin vote tallies were deter late on Nov. 4, the Mes has spent much of its learning more about Franklin County's electecials — the people chost create Vermont's laws, judgments in the courts affect the state's and Fre

County's budgets -- really
This particular inve



## forced even employers of glitches with the exchange this year But debilitating of fewer than 100 workers tinuing with employers include all employers, conratcheted up to eventually was supposed to de slowly on the exchange. That dated to purchase plans fewer workers were manall employers with 50 or

other school district in the - 20 percent — than any toward their premiums pay as much as or more In Colchester, employees districts pick up 86 percent. health care premiums, and pay 14 percent of their school district employees On average in Vermont,

Connect went live last year,

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When Vermont Health

"... sgnivss lsitnstedus system is likely to result in funded health insurance "A transition to a publicly writes in the KSE report. economist Scott Mackey public or private sectors," employees in either the available to any Vermont health insurance benefits among the most generous to their employees health insurance benefits tricts provide excellent ing, Vermont school dis-

# SW1( synings 1 report

# Drainage

tices in the right place at

with the right field prac-

will need to be combined

but research suggests it

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warn customers not to use

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can be toxic and this sum-

Lake Erie. Those blooms

like Lake Champlain and

blooms in freshwater lakes

to feed blue-green algae

with the Vermont Agency

director of Agriculture

out Laura DiPietro, deputy

phorous in the soil, pointed

ing the amount of phos-

and nitrogen, thus reduc-

soil, including phosphorous

more nutrients from the

growing corn varieties uses

do well in wet fields. Faster

for corn, which does not

fields to absorb water dur-

creating capacity for those

water away from fields,

runoff by carrying excess

drainage would reduce It was believed that tile

firm, Stone Environmental.

now with the engineering

up Lake Champlain, who is

cial charged with cleaning

Moore, a former state offi-

set of challenges," said

izing it comes with its own

erosion and now are real-

great solution to overland

ing (tile drainage) was a

"We went into it think-

ing the next rainstorm.

Tile drainage is good

of Agriculture.

Resource

Phosphorous is known

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resolved,

Tile drainage could still

# Doug Smith. ARS researcher on child. driving what we see in the tile.' The upper two inches of soil is

with which water reached explain both the rapidity nutrients downward, may nels transporting water and in the soil that act as funbelieve macropores, cracks researcher Kevin King

found it would take hours Previous research had

research, of the scientists leading the ARS office in Texas and one now assigned to the federal

the norm in the Midwest.

tillage fields have become break up macropores. No the tiling in their fields to sider shallow tillage above recommended farmers con-Smith and King have

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runoff, were in use. which would reduce that cation winter cover crops, snowmelt. There is no inditace runoff was caused by The majority of the sur-

than 10 times that in the surface runoff were more phorous concentrations in of the study. However, phostwo sites over the five years byosbyotons joss on the age of 40 percent of the off accounted for an aver-

Overall, subsurface runwas in subsurface runoff. rous coming from the field

DiPietro said one advan-

amount of phosphorous correlation between the

Their data show a direct phosphorous in the tile. the tile and the amount of

gug Smith the Lake Erie basin. not the clay-loam soils of was done in sandy soils, Smith. But that research the buried tiles, explained trate from the surface to or days for water to infil-

Julie Moore, scientist & engineer

# set of challenges.' We ... now are realizing it comes v

rapid," said Doug Smith, through the tile was very of the flow we were getting peak surface runoff. "A lot within a minute or two of tile drainage was occurring that peak flow through the trary to previous research, They also found, con-

leaving the fields. half of the phosphorous

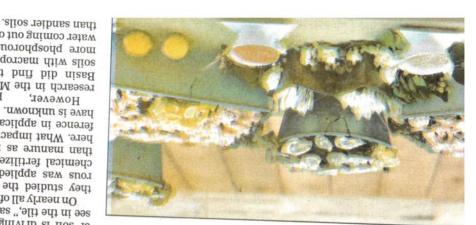
63 percent of the phosphopores in the soil. That year, to the formation of macrothe preceding year had led an unusually dry summer second year of the study, runoff were higher in the rous levels in subsurface At the clay site, phosphoing from surface erosion.

rous loss, with the rest com-

The St. Albans (Vt.) Messenge

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New Section 1 Page 3



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> noil Raings

water coming out of the tile more phosphorous in the soils with macropores had Basin did find that clay research in the Missisquoi previous However, have is unknown.

ference in application may here. What impact that difthan manure as is typical chemical fertilizers rather rous was applied through they studied the phospho-

On nearly all of the fields see in the tile," said Smith. of soil is driving what we "The upper two inches

surrace along with water from the the phosphorous to the tile, macropores are funneling the tile. They believe the of phosphorous reaching the soil and the amount in the top two inches of

animuntah of aldiz Franklin County is impos-Lake Champlain basin or tile drainage already in the said. The exact amount of for more than 50 years, she being installed in Vermont Tile drainage has been

water reaches rivers and phosphorous before the the tiles in order to remove face runoff coming out of into treating the subsur-She supports research

# Treating runoff

to prevent macropores. That disturbance can help manure is often injected. even on no-till fields, where into fields in some fashion is generally incorporated Midwest is that manure tage Vermont has over the

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**Research** 

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resolved. ply until the situation was the municipal water supwarn customers not to use required Toledo, Ohio to tion in Lake Erie that mer caused contaminacan be toxic and this sum-Lake Erie. Those blooms like Lake Champlain and blooms in freshwater lakes to feed blue-green algae Phosphorous is known

or Agriculture. with the Vermont Agency Management Resource director of Agriculture out Laura DiPietro, deputy phorous in the soil, pointed ing the amount of phosand nitrogen, thus reducsoil, including phosphorous more nutrients from the growing corn varieties uses do well in wet fields. Faster for corn, which does not Tile drainage is good

ing the next rainstorm. fields to absorb water durcreating capacity for those water away from fields, runoff by carrying excess drainage would reduce

Service (ARS) found that Vermont Education Health Agricultural ing plan — known as the by scientists to retain teachers' existin the Lake Erie basin ters and school districts has advised its local chap-Union (Vermont NEA) The Vermont Teachers

► See HEALTH on page 3A

Cross Blue Shield and MVP. ating in Vermont — Blue vate insurers already operchase directly from the priless than 50 workers to purforced even employers of glitches with the exchange this year. But debilitating of fewer than 100 workers tinuing with employers include all employers, conratcheted up to eventually was supposed to be slowly on the exchange. That dated to purchase plans tewer workers were manall employers with 50 or Connect went live last year, When Vermont Health

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